

Title (en)
SILICON-OXYGEN COMPOSITE NEGATIVE ELECTRODE MATERIAL AND PREPARATION METHOD THEREFOR, AND LITHIUM ION BATTERY

Title (de)
NEGATIVELEKTRODENMATERIAL AUS SILIZIUMSAUERSTOFFVERBUNDSTOFF UND HERSTELLUNGSVERFAHREN DAFÜR, UND LITHIUM-IONEN-BATTERIE

Title (fr)
MATÉRIAU D'ÉLECTRODE NÉGATIVE COMPOSITE À BASE DE SILICIUM-OXYGÈNE ET SON PROCÉDÉ DE PRÉPARATION, ET BATTERIE AU LITHIUM-ION

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Application
EP 21809751 A 20210521

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• CN 2021095260 W 20210521

Abstract (en)
[origin: EP4044283A1] The present application provides a silicon-oxygen composite negative electrode material and a preparation method therefor, and a lithium ion battery. The silicon-oxygen composite negative electrode material has a core-shell structure, the core comprises nano-silicon and a silicon oxide SiO_x, and the shell comprises Li₂SiO₃. The preparation method comprises: mixing a silicon source and a lithium source, and performing heat treatment in a non-oxygen atmosphere to obtain a composite material containing Li₂SiO₃; and immersing the composite material containing Li₂SiO₃ in an acid solution to obtain the silicon-oxygen composite negative electrode material. The nano-silicon in the negative electrode material provided by the present application is wrapped by SiO_x, and the surface of SiO_x is further wrapped with the Li₂SiO₃ having a stable structure, making it difficult for the nano-silicon to come into physical contact with substances other than the SiO_x and impossible to come into direct contact with water, thereby effectively inhibiting gas production of a battery.

IPC 8 full level
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• See also references of WO 2021233439A1

Designated contracting state (EPC)
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BA ME

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KH MA MD TN

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